

Docket No.: 058647-0180



PATENT

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 20277
Katsumi TAKEHARA	:	Confirmation Number: 4572
Application No.: 10/787,197	:	Tech Center Art Unit: 3736
Filed: February 27, 2004	:	Examiner: Jeffrey Gerben HOEKSTRA
For: BODY COMPOSITION ESTIMATION METHOD AND BODY COMPOSITION MEASURING APPARATUS		

**TRANSMITTAL OF APPEAL BRIEF**

Mail Stop Appeal Brief  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith is Appellant's Appeal Brief in support of the Notice of Appeal filed August 27, 2007. Please charge the Appeal Brief fee of \$510.00 to Deposit Account 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due under 37 C.F.R. 1.17 and 41.20, and in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Handwritten signature of Michael A. Messina in cursive.

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## Page

REAL PARTY IN INTEREST .....	1
RELATED APPEALS AND INTERFERENCES .....	1
STATUS OF CLAIMS .....	2
STATUS OF AMENDMENTS .....	2
SUMMARY OF CLAIMED SUBJECT MATTER .....	2
GROUND OF REJECTION TO BE REVIEWED BY APPEAL .....	3
ARGUMENT .....	3
CONCLUSION .....	6
CLAIMS APPENDIX .....	7
EVIDENCE APPENDIX .....	9
RELATED PROCEEDINGS APPENDIX .....	10



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**APPEAL BRIEF**

Mail Stop Appeal Brief  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed August 27, 2007, wherein Appellant appeals from the Examiner's rejection of claims 14-19.

**Real Party In Interest**

This application is assigned to TANITA CORPORATION by assignment recorded on February 27, 2004, at Reel 015025, Frame 0095.

**Related Appeals and Interferences**

Appellant is unaware of any related Appeals or Interferences.

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### **Status of Claims**

Claims 14-19 are pending and finally rejected in this Application. Claims 1-13 and 20-26 have been withdrawn from consideration. It is from the final rejection of claims 14-19 that this Appeal is taken.

### **Status of Amendments**

There were no amendments proposed after the Final Office Action of May 7, 2007. All previous amendments have been entered.

### **Summary of Claimed Subject Matter**

Claim 14 is the only independent claim on appeal, and is directed to a body composition measuring apparatus as shown, for example, in Fig. 8 of the present application. Referring now to Fig. 8, the claimed apparatus comprises a electric current applying unit 21 that applies an electric current to a living body (*see*, for example, page 33, lines 19-22 of the present application); a voltage measuring unit 22 that measures a voltage (page 33, lines 22-24 of the application); and a bioelectrical impedance computing unit (arithmetic and control unit 23) that computes a parameter associated with a bioelectrical impedance of a measured body part, based on the applied electric current and the measured voltage (page 32, lines 3-11 of the application). The apparatus also includes a correcting unit (arithmetic and control unit 23) that corrects the bioelectrical impedance parameter value using a parameter representing an intracellular/extracellular fluid ratio, which ratio is included in the parameter value of the bioelectrical impedance measured at a given frequency (page 32, lines 3-8 and page 33, line 24 to page 34, line 16 of the application). The apparatus further comprises a body composition computing unit (arithmetic and control unit 23) that computes an index associated with a body composition based on the corrected bioelectrical impedance parameter value (page 32, lines 8-11 and page 34, line 25 to page 35, line 9 of the application).

**Grounds of Rejection To Be Reviewed By Appeal**

Claims 14-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Publication No. 2001/0007924 A1 (Kamada).

**Argument**

**THE REJECTION OF CLAIMS 14-19 AS BEING ANTICIPATED BY KAMADA**

**The Examiner's Rejection in the Final Office Action**

The Examiner asserted that Kamada discloses all the elements of claims 14-19. In particular, the Examiner analogized analogizes steps S15 and S16 of Kamada, performed by Kamada's control unit element 2 and ROM 3, to the claimed correcting unit (*see*, top of page 3 of the Final Office Action).

The Examiner also asserted that the recited functions of the correcting unit and the computing unit of claim 14 are intended use limitations, and Kamada's computing unit is capable of performing these intended uses as claimed (*see*, pages 4-5, paragraphs 11-12 of the Final Office Action). The Examiner further asserted, in the Advisory Action, that the claimed limitations are not patentably distinguishable from Kamada because there are no structural differences.

**Appellant's Response**

Regarding the anticipation rejection of independent claim 14, despite contentions to the contrary in the Office Action, Kamada does not disclose or even suggest the recited correcting unit that corrects a parameter value associated with a measured bioelectrical impedance. Nowhere does Kamada mention correction or modification of a parameter associated with a measured bioelectrical impedance. The Office Action analogizes steps S15 and S16 of Kamada to the claimed correcting unit. However, this is not a valid comparison. As explained at paragraphs 60-61 of Kamada, various body

composition values are calculated at step S15, and stored at step 16. No *correction* of any parameter is disclosed in these steps, or anywhere else in Kamada.

The body composition values calculated and stored by Kamada include an intracellular/extracellular fluid ratio. This ratio is used by the claimed invention by the recited correcting unit to correct an impedance parameter value. However, Kamada does not disclose or suggest using this ratio to correct an impedance parameter value, as claimed. Kamada simply calculates it, and displays it in step S17 (see Fig. 2 of Kamada). In other words, Kamada does not disclose an apparatus that uses the intracellular/extracellular fluid ratio as claimed.

Furthermore, since Kamada does not disclose the recited correcting unit for correcting a parameter value, it cannot disclose the recited computing unit of claim 14 that computes an index based on the corrected parameter value.

At paragraph 11 of the Final Office Action, the Examiner contends that the recited functions of the correcting unit and the computing unit of claim 14 are intended use limitations, and Kamada's computing unit is capable of performing these intended uses as claimed. Appellant disagrees. The "wherein" clauses of claim 14 are not recitations of mere intended uses of the correcting unit and the computing unit. Rather, they are proper recitations of functions performed by the claimed correcting unit and computing unit, using customary functional language, which specify a structure for the correcting unit and the computing unit; i.e., a structure capable of performing the recited functions. *See, e.g.,* MPEP §2114. The Examiner has no legal basis whatsoever for interpreting the recited wherein clauses as intended use limitations.

Furthermore, there is no support offered in the Final Office Action for the statements on page 5 of the Office Action that Kamada discloses a computing unit capable of performing the recited functions of claim 14's computing unit and correcting unit. Likewise, in the Advisory Action, the

Examiner points out that “Kamada discloses an arithmetic and control unit (2) operable in combination with arithmetic operations contained with a ROM element (3) that receive measured data and are capable of well-known arithmetic operations including measured impedance data with an intracellular/extracellular fluid ratio.” The Examiner goes on to contend, without offering any support, that the claimed limitations are not patentably distinguishable from Kamada because there are no structural differences.

By the Examiner’s reasoning, the claimed correcting unit and computing unit would be anticipated by any computer in the world having a ROM and a CPU, as long as they have the requisite computing power. This, of course, is an absurdity, and ignores the well-established principles discussed hereinabove regarding functional claiming. The Examiner also seems to ignore the fact that, to perform any given function, an arithmetic and control unit (e.g., a computer) must have a certain structure, and/or must receive particular instructions stored in another unit. For example, a set of instructions is either “hard wired” into the arithmetic and control unit, stored in the arithmetic and control unit, or stored on a computer-readable medium such as a ROM. Whether stored or hard wired, these instructions are part of the computer’s structure. As discussed hereinabove, Kamada does not disclose or even suggest correcting a parameter value associated with a measured bioelectrical impedance using an intracellular/extracellular fluid ratio, as claimed. Therefore, Kamada’s arithmetic unit 2 is not taught to include hard wiring, or a computer-readable medium, or any other structure to perform such an operation. Likewise, Kamada does not teach or suggest that its ROM 3 has a set of instructions for performing the recited correction operation.

In summary, there is no logical or factual basis for contending Kamada’s device can perform the functions of the claimed correcting unit or computing unit, or that Kamada’s device contains structure capable of performing the claimed functions. The Office Action’s statements of Kamada’s

ability to perform these functions are purely speculative, and cannot support an anticipation rejection.

Kamada does not anticipate independent claim 14, because it does not disclose the recited correcting unit or body composition computing unit. Moreover, it would not have been obvious to modify the apparatus of Kamada to add these features to yield the invention of claim 14.

Consequently, claim 14 is patentable, as are claims 15-19, which depend from claim 14.

Further regarding dependent claims 17-19, Kamada does not teach correcting any parameters, so it cannot disclose the correcting unit of claim 17 which corrects any of the parameters listed in claim 17, or the correcting unit of claims 18-19 that corrects in accordance with the recited mathematical expressions. Moreover, the recitations of claims 18 and 19 are not intended use limitations, as contended in the latest Office Action, for the reasons discussed above in relation to claim 14.

Consequently, claims 17-19 are further and separately patentable.

### Conclusion

Based upon the arguments submitted, Appellant respectfully submits that the Examiner's rejections under 35 U.S.C. §102 are not legally viable. Appellant, therefore, respectfully solicits the Honorable Board to reverse the Examiner's rejections of claims 14-19.

Respectfully submitted,

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**CLAIMS APPENDIX**

14. A body composition measuring apparatus comprising:

an electric current applying unit,

a voltage measuring unit,

a bioelectrical impedance computing unit,

a correcting unit, and

a body composition computing unit,

wherein

the electric current applying unit applies an electric current to a living body,

the voltage measuring unit measures a voltage,

the bioelectrical impedance computing unit computes a parameter associated with a bioelectrical impedance of a measured body part from the applied electric current and the measured voltage,

the correcting unit corrects the parameter value associated with the measured bioelectrical impedance by use of a parameter representing an intracellular/extracellular fluid ratio which is included in the parameter value of the bioelectrical impedance measured at a given frequency, and

the body composition computing unit computes an index associated with a body composition based on the corrected parameter value associated with the bioelectrical impedance.

15. The apparatus of claim 14, wherein the given frequency is the frequency of the electric current applied to the living body for estimation of the body composition.

16. The apparatus of claim 14, wherein the given frequency is a frequency different from the frequency of the electric current applied to the living body for estimation of the body composition.

17. The apparatus of claim 14, wherein the parameter of the bioelectrical impedance which is corrected by the correcting unit is any of the absolute value of the bioelectrical impedance, a bioelectrical impedance vector value or the resistance component value of the bioelectrical impedance vector.

18. The apparatus of claim 14, wherein the parameter associated with the bioelectrical impedance which has been corrected by the parameter associated with the bioelectrical impedance which represents the intracellular/extracellular fluid ratio is  $P'$ , and the correcting unit is for correcting the parameter associated with the bioelectrical impedance in accordance with the following correction expression:

$$P' = f(P, \alpha) = K \cdot P^A \cdot \alpha^B + C$$

wherein  $f(P, \alpha)$  is a correction function represented by parameters  $P$  and  $\alpha$ ,  $P'$  is the corrected parameter associated with the bioelectrical impedance,  $P$  is the measured parameter associated with the bioelectrical impedance,  $\alpha$  is the parameter associated with the bioelectrical impedance which represents the intracellular/extracellular fluid ratio, and  $A$ ,  $B$ ,  $C$  and  $K$  are constants.

19. The apparatus of claim 18, wherein the parameter  $\alpha$  associated with the bioelectrical impedance which represents the intracellular/extracellular fluid ratio is expressed as follows by use of a phase difference  $\phi$  between the waveform of the alternating current applied from the electric current applying means to the living body and the waveform of the voltage measured by the voltage measuring means at the time of measurement of the bioelectrical impedance:

$$\alpha = 1/\phi.$$

**EVIDENCE APPENDIX**

Not applicable.

**RELATED PROCEEDINGS APPENDIX**

Appellant is unaware of any related proceedings.

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